STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Aqua Illinois, Inc.	:	
	:	
Proposed General Increase In Water Rates	:	Docket No. 14-0419
For the Kankakee Service Area	:	

Rebuttal Testimony of

HAROLD WALKER III

Manager, Financial Studies
Gannett Fleming Valuation and Rate Consultants, LLC

On behalf of
Aqua Illinois, Inc.

October 2, 2014

GANNETT FLEMING
VALUATION AND RATE CONSULTANTS, LLC.
Valley Forge, Pennsylvania

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I. INTRODUCTION AND BACKGROUND

A. Identification of Witness

Q. Please state your name and business address.

A. My name is Harold Walker III. My business address is P.O. Box 80794, Valley Forge, Pennsylvania 19484.

Q. What is your business affiliation?

A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as Manager, Financial Studies.

Q. Are you the same Harold Walker III who provided direct testimony on behalf of Aqua Illinois, Inc. ("Aqua Illinois" or the "Company") in this matter?

A. Yes.

B. Purposes of Rebuttal Testimony

Q. What is the purpose of your rebuttal testimony in this proceeding?

A. The purpose of my rebuttal testimony is to comment on the direct testimony of Illinois Commerce Commission ("Commission") Staff ("Staff") witness Sheena Kight-Garlisch (Staff Exhibit ("Ex.") 3.0). Specifically, I respond to Ms. Kight-Garlisch's testimony that addresses the cost of common equity, capital structure, and fixed capital cost rates.

Q. Are you sponsoring any exhibits?

A. Yes, I am sponsoring Aqua Ex. 8.1, which is comprised of ten schedules.

C. Summary of Conclusions

Q. Please summarize the conclusions of your rebuttal testimony.

A. Staff's proposed return on equity ("ROE") of 9.07 % is unreasonable and should not be accepted.[1] This is not simply a disagreement between myself and Ms. Kight-Garlisch. Rather, Staff's approach to determining Aqua Illinois' ROE represents a significant departure from Staff's approach in other recent rate cases. This unexplained departure from past Staff ROE analyses negatively penalizes Aqua Illinois as compared to other utility companies, and undermines the notion of regulatory stability. Additionally, Ms. Kight-Garlisch's ROE analysis is flawed because it:

1. contains numerous errors and inconsistencies, including:
   - observable changes in capital cost rates that are inconsistent with Staff's recommendation;
   - a dramatic change in the type of growth rates used;
   - a change in the discounted cash flow ("DCF") model utilized;
   - unreliable estimate of economic growth;
   - untested end-result of Staff's DCF-based cost rates relative to comparative benchmarks;
   - sole reliance on one model to estimate the cost of equity;
   - cost rate estimate inconsistent with risk analysis;
2. fails a comparison test of alternative investment opportunities when compared to the common equity cost rate estimated for large companies;
3. fails a comparison test of projected ROE; and
4. fails to consider the fact that if authorized, Staff's proposed 9.07% return on equity will not likely be earned due to the fact that Staff has recommended the disallowance of hundreds of thousands of Aqua Illinois' expenses that have previously been approved.

[1] Aqua notes that the Company filed data requests seeking the inputs, calculation, and source documents that underlie the conclusions set forth in Ms. Kight-Garlisch's direct testimony. The Company received Staff's responses on September 29, 2014, and has not had the opportunity to review all of the inputs and calculations or the source documents. Aqua reserves the right to analyze and address such DR responses in its surrebuttal testimony.

I also have examined Ms. Kight-Garlisch's alleged criticisms of my ROE analysis. As I describe later in this testimony, these claims are without merit and should be rejected.

Q. How will Staff's recommended ROE impact Aqua Illinois and its customers if it is accepted by the Commission?

A. If accepted, Staff's proposed ROE would significantly harm Aqua Illinois and its customers. First, Staff's ROE would place Aqua Illinois at a competitive disadvantage in the capital markets, making it more difficult and costly to obtain the capital necessary to finance future infrastructure improvements. If Aqua Illinois is unable to compete to obtain capital at competitive rates, or is unable to obtain capital through the market, Aqua Illinois' ability to continue to offer reliable service at a reasonable cost will be put at risk. Such a result does not benefit customers or the regional economy. Second, Staff's proposal disregards recent Commission decisions concerning similar issues and companies, which upends traditional notions of regulatory certainty. When there is such disregard for regulatory certainty, it is virtually impossible for any small water company to properly plan for future investments in its infrastructure. This result benefits no one, and contradicts long-standing concepts of sound regulatory policy.

Q. Given the flaws in Staff's ROE analysis, what is your proposed solution?

A. I continue to propose that the Commission adopt an ROE of 10.25% for Aqua Illinois. (*See* Walker Dir., Aqua Ex. 3.0). In my direct testimony, I used several models to help me in formulating my recommended common equity cost rate, including DCF, Capital Asset Pricing Model ("CAPM") and Risk Policy ("RP"). Based upon the results of my

entire analysis, I conclude that Aqua Illinois' current common equity cost rate is 10.25% and the current range of common equity cost for Aqua Illinois is 9.7% to 10.7%.

In the event the Commission seeks to apply Staff's methodology, then it should:

1. recognize that Staff deviated from the evidence supporting their own liquidity premium;

2. give the upper end of Staff's recommended range of cost rate a majority of weighting;

3. recognize that Staff's types of growth rate used is not consistent with the types of growth rates utilized in similar cases;

4. recognize that Staff's DCF methodology is not consistent with the DCF model utilized in other cases;

5. recognize that Staff used an unrealistic estimate of economic growth; and

6. recognize that Staff's CAPM methodology is not consistent with the financial theory underlying CAPM analyses.

There is ample evidence that Staff's cost rates are unreasonable and not useful. Correcting these errors and applying Staff's methodology results in an ROE of at least 10.01%. As described below, this result falls in line with investor's return requirements found for other similar water utilities. However, if the Commission is going to give any weight to the results of Staff's common equity cost rate estimate, I believe the only reasonable solution is to give the upper end of Ms. Kight-Garlisch's range of common equity cost rate 100% weight. Doing so suggests a 9.77% cost of common equity for Aqua Illinois.

II. ANALYSES OF STAFF'S PROPOSED COST OF COMMON EQUITY

Q. What is Staff's recommended cost of common equity in this proceeding?

A. Staff recommends an 8.36% to 9.77% range of return on common equity with a specific recommendation of 9.07%.[2] Ms. Kight-Garlisch's recommendation, 9.07%, is based on the average or mid-point of her recommended range (i.e., giving one-half weight to the lower end of her cost rate range, 8.36%, and giving one-half weight to the upper end of her cost rate range, 9.77%).[3]

Schedule 1, attached to my testimony as Aqua Ex. 8.1, summarizes Staff's cost of common equity recommendation in this case. Schedule 1 lists the companies used or "sampled" by Ms. Kight-Garlisch to determine her recommendation, the results of the common equity models, and Staff's recommended weighting of her results.

As shown on Schedule 1, Staff used two groups of companies to estimate the cost of equity, which I hereafter refer to as the "Water Sample" and "Gas Sample," or collectively as the "Staff's Samples." Ms. Kight-Garlisch used three models to estimate the cost of equity, a constant growth DCF model, a non-constant growth discounted cash flow ("NCDCF") model, and the CAPM. Also shown on Schedule 1 is Staff's recommended weighting of the results of each of these models. Specifically, Staff recommends giving 100% weighting to the results of her Gas Sample.

A. Samples and Liquidity Premiums

Q. Have you reviewed other recent testimony of Ms. Kight-Garlisch where she gave 100% weighting to the results of a Gas Sample?

A. Yes, I reviewed Ms. Kight-Garlisch's April 2013 testimony in Docket No. 13-0079 regarding Mt. Carmel Public Utility Company. I use the acronym "GAS2013" to refer to that rate case. In GAS2013, Ms. Kight-Garlisch determined a cost of common equity of

[2] ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 26:480-483.
[3] *Id.*

10.97% for electric delivery service operations based on a group or sample of electric companies and a cost of common equity of 10.15% for natural gas distribution operations based on a group or sample of gas companies.[4]

Q. Did the Commission adopt Staff's recommended return on equity in the GAS2013 rate decision?

A. Yes, the Commission authorized a return on equity based upon the Staff's recommendation in GAS2013.[5]

Q. Did Ms. Kight-Garlisch use similar gas companies in GAS2013 that she used in reaching her recommended return on equity for Aqua Illinois in the current case?

A. Yes. In the current Aqua Illinois proceeding, Staff's Gas Sample is comprised of 10 gas companies.[6] In GAS2013, Staff's gas group was comprised of eight gas companies.[7] All eight of the gas companies used by Ms. Kight-Garlisch in GAS2013 are included in her Gas Sample that she used to determine her recommendation for Aqua Illinois in the current case.

Q. What cost of common equity did Ms. Kight-Garlisch determine for her gas group In GAS2013?

Ms. Kight-Garlisch determined a cost of common equity of 8.65% for her gas group in GAS2013.[8]

[4] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 6:104-106.
[5] *See Mt. Carmel Public Utility*, ICC Docket No. 13-0079 (final Order Nov. 6, 2013) at 10.
[6] *See* ICC Docket No. 14-0419, Staff Schedules ("Sch.") 3.04, 3.05.
[7] *See* ICC Docket No. 13-0079, Staff Sch. 3.05-G.
[8] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 28:546-548.

Q. Given that Ms. Kight-Garlisch determined an 8.65% for her gas group in GAS2013, why did she recommend a 10.15% for the natural gas distribution operations in the same GAS2013 testimony?

A. In GAS2013, Ms. Kight-Garlisch recommended a liquidity premium of 150-basis points be added to the cost of equity she determined for her gas sample.[9] In GAS2013, Ms. Kight-Garlisch testified, "a fair rate of return on common equity for Mt. Carmel's natural gas distribution operations equals the cost of common equity for the Gas Sample, 8.65%, plus 150 basis points, or 10.15%".[10]

Q. What is a "liquidity premium"?

A. A liquidity premium is a term used to explain a difference between two types of financial securities, either stocks or bonds, that have all the same qualities except liquidity.

> The rate of return that an investor expects above other rates of return in order to make an illiquid investment. All other things being equal, an investor generally expects a higher return for investing in something that may be difficult to convert to cash. For example, an inactive bond may pay a higher coupon rate than an active bond with a similar credit rating.[11]

In GAS2013, Ms. Kight-Garlisch testified that her gas sample was comprised of market-traded companies whose security prices did *not* reflect substantial liquidity costs.[12] She based her 150-basis point liquidity premium on the difference between the yield on similar debt issuances and the interest rate on the subject company's debt.[13]

Q. Does Ms. Kight-Garlisch recommend a liquidity premium for Aqua Illinois?

[9] ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 30:588-590.
[10] *Id*. at 30:593-595.
[11] http://financial-dictionary.thefreedictionary.com/Liquidity+Premium (9/20/2014).
[12] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 30:578-579.
[13] *Id*. at 30:588-590.

A. No. However, she testified regarding the existence of a liquidity premium, "to the extent that a correlation between firm size and return exists, that relationship is likely the result of some other factor or factors that are related to both size and return, such as liquidity or information costs, rather than size, per se."[14]

Q. Does Aqua Illinois have a measurable liquidity premium when Aqua Illinois is compared to the Water Sample or the Gas Sample?

A. Yes. Schedule 2, attached to my testimony as Aqua Ex. 8.1, shows a comparison of Aqua Illinois' average debt cost rate and the average debt cost rate for the Water Sample and the Gas Sample for the three-year period 2011 to 2013. As shown on Schedule 2, Aqua Illinois' 2013 average debt cost rate of 6.69% is 146-basis points higher than the Water Sample's 5.23% rate and 249-basis points higher than the Gas Sample's 4.21% rate. Similarly, Aqua Illinois' 6.50% average debt cost rate for the three-year period 2011 to 2013 is 110-basis points more than the Water Sample's 5.40% rate and 182-basis points greater than the Gas Sample's 4.68% rate.

The entire difference in average debt cost rate may not be exclusively comprised of the liquidity premium but does provide a measurable difference in the capital markets assessment of risk and required return. In comparison to the Gas Sample, the market for debt associated with a company the size of Aqua Illinois is limited due to their small size and have significantly less liquidity than the Gas Sample's larger debt issuances. Additionally, Aqua Illinois' smaller, privately-placed debt typically is more expensive and has more onerous loan covenants than the Gas Sample's larger issuances.

[14] ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 33:604-607.

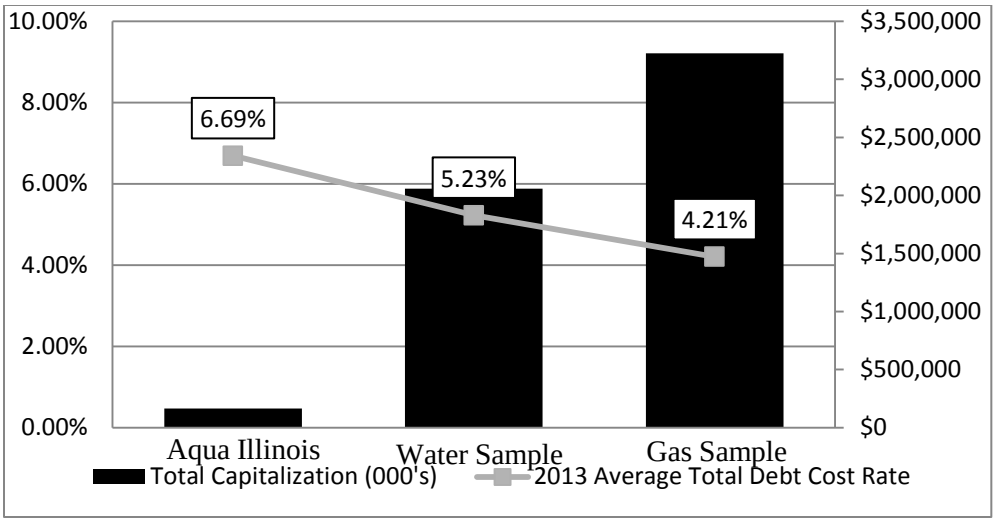

Figure 1

Figures 1, 2 and 3 show the vivid relationship between liquidity premium and size. Figure 1 shows the relationship between average debt cost rate and total capitalization for Aqua Illinois, the Water Sample, and the Gas Sample. As illustrated in Figure 1, the Gas Sample's average total capitalization is 20-times larger than Aqua Illinois' and the Water Sample's average total capitalization is 13-times larger than Aqua Illinois'.

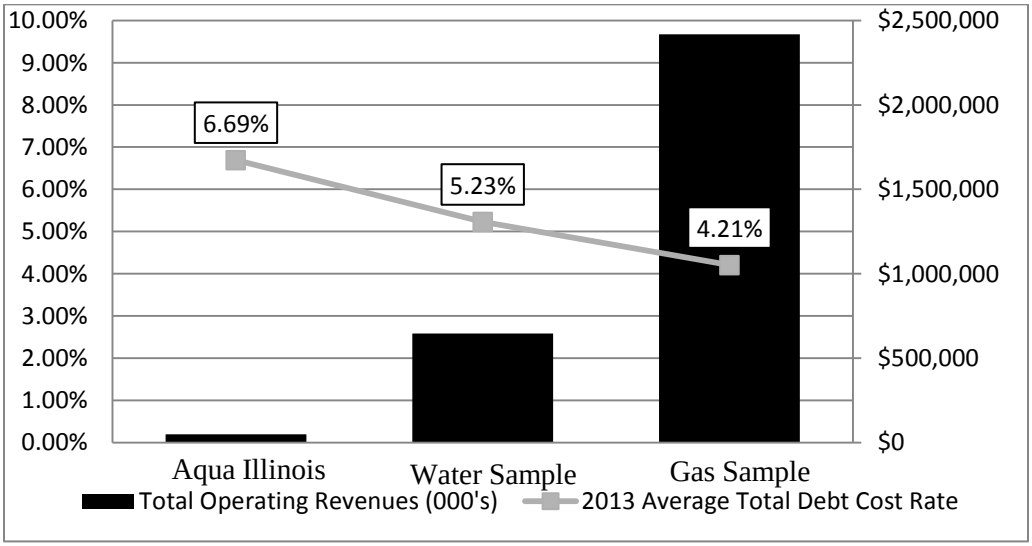

Figure 2

The relationship between average debt cost rate and operating revenues for Aqua Illinois, the Water Sample, and the Gas Sample is shown in Figure 2. As demonstrated in Figure 2, the Gas Sample's average operating revenues is 50-times larger than Aqua Illinois' and the Water Sample's average operating revenues is 13-times larger than Aqua Illinois'.

A similar comparison of the number of customers and average debt cost rate for Aqua Illinois, the Water Sample, and the Gas Sample is shown in Figure 3. As revealed in Figure 3, the Gas Sample averages 24-times more customers than Aqua Illinois' and the Water Sample averages 11-times more customers than Aqua Illinois'.

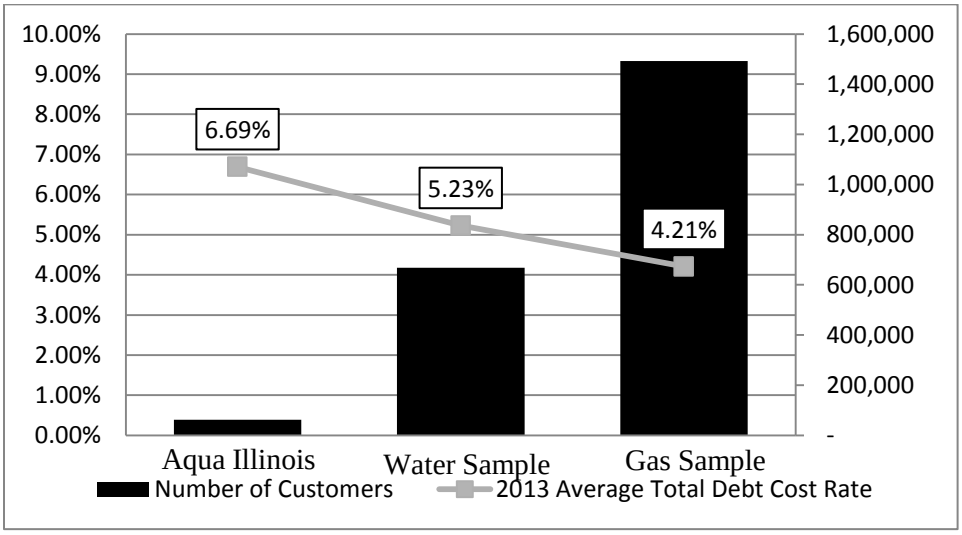

Figure 3

As shown on Schedule 3, attached to my testimony as Aqua Ex. 8.1, size plays a role in the composition of investors, and hence liquidity. In 2012, only 88% of the Water Sample's shares of common stock traded while 117% of the Gas Sample's shares traded. The 32% difference in common stock turnover demonstrates again the relationship between size and liquidity. Similarly, only about 54% of the Water Sample's shares are

held by institutions[15] while 66% of the Gas Sample's shares are held by institutions. The 23% difference in institutional holding also validates the relationship between size and liquidity.

Q. Ms. Kight-Garlisch recommended that a liquidity premium of 150-basis points be added to the cost of equity she determined for her gas sample in GAS2013.[16] Based on the evidence you discussed above and Ms. Kight-Garlisch's own prior practice, should Ms. Kight-Garlisch have similarly added a 150-basis points to the cost of equity she determined for her Gas Sample for Aqua Illinois in the current case?

A. Yes. Consistency alone would dictate that Ms. Kight-Garlisch should recommend a liquidity premium for Aqua Illinois as she did in GAS2013, especially in light of the fact that she used almost the same Gas Sample group for Aqua Illinois as she did in GAS2013. Moreover, that conclusion is also substantiated by the evidence shown in Figures 1, 2, and 3, which demonstrates that size plays a role in the average debt cost rate, and hence liquidity. Had Ms. Kight-Garlisch recommended a 150-basis point liquidity premium for Aqua Illinois as she did in GAS2013, her recommended cost of equity would be 10.57% (9.07% + 1.50%) for Aqua Illinois.

Alternatively, if Staff recommended the upper end of her 8.36% to 9.77% range of return on common equity found for the Gas Sample, or 9.77% for Aqua Illinois, she would be consistent with her testimony in GAS2013 concerning the use of a liquidity premium for Aqua Illinois as she did in GAS2013. As stated previously, Ms. Kight-

[15] Institutional holders are those investment managers having a fair market value of equity assets under management of $100 million or more. Certain banks, insurance companies, investment advisers, investment companies, foundations and pension funds are included in this category.

[16] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 30:588-590.

Garlisch justified the use a liquidity premium in GAS2013 when she testified that her gas sample was comprised of market-traded companies whose security prices did not reflect substantial liquidity costs.[17] Similar circumstances exist in Aqua Illinois as they did in GAS2013.

In my direct testimony (Aqua Ex. 3.0, 26:493-27:536), I highlighted the existence of unusual capital market conditions, including the Federal Reserve's large purchases and holdings of US Treasury debt, and the zero interest rate environment established by the Federal Reserve. As a result of the existence of unusual capital market conditions regulators have begun to set the "return on equity halfway between the midpoint of the zone of reasonableness and the top of that zone"[18] to produce just and reasonable rates. Following a similar approach in this case indicates a 9.42% ([9.07% + 9.77%] ÷ 2) cost of equity for Aqua Illinois based on Staff's analysis. Further, following such an approach in this case would be consistent with Staff's testimony, "rate of return on common equity requires both the application of financial models and the analyst's informed judgment"[19], in this case and would be consistent with her testimony in GAS2013 concerning the use of a liquidity premium for Aqua Illinois.

Q. Ms. Kight-Garlisch recommended a 10.15% cost of common equity in GAS2013 and she recommends a 9.07% cost of common equity for Aqua Illinois.[20] Does Ms. Kight-Garlisch's testimony in Aqua Illinois show that the cost of capital has <u>fallen 108-basis points</u> (i.e., 10.15% less 9.07%) between GAS2013 and Aqua Illinois?

[17] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 30:578-579
[18] *See* June 19, 2014 Federal Energy Regulatory Commission Opinion No. 531 on Initial Decision in Docket No. EL 11-66-001.
[19] ICC Docket No. 14-0419, Kight-Garlisch Dir.,Staff Exhibit 3.0, 23:418-419.
[20] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 30:593-595; ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 23:426-427.

A. No. Ms. Kight-Garlisch recommended a 12.59% market return for the S&P 500, or "market portfolio", used in her CAPM in GAS2013[21], but recommends a 12.53% market return for the S&P 500 in her CAPM in Aqua Illinois. This suggests the cost of capital has decreased 6-basis points (i.e., 12.59% less 12.53%) between GAS2013 and Aqua Illinois. Similarly, Ms. Kight-Garlisch recommended a 3.15% "risk-free rate" used in her CAPM in GAS2013[22] but recommends a 3.62% "risk-free rate" used in her CAPM in Aqua Illinois[23]. This suggests the cost of capital has increased 47-basis points (i.e., 3.62% less 3.15%) between GAS2013 and Aqua Illinois. Likewise, Staff testified to a 4.03% yield for "A-rated long-term utility debt" in GAS2013[24] but testifies to a 4.25% yield for "A-rated long-term utility debt" in Aqua Illinois.[25] This suggests the cost of capital has increased 22-basis points (i.e., 4.25% less 4.03%) between GAS2013 and Aqua Illinois. Ms. Kight-Garlisch's testimony does not, in sum, show any consistent view on this question, and certainly not that there has been more than a 100 basis point drop in the cost of capital.

Q. In GAS2013, Ms. Kight-Garlisch based her 150-basis point liquidity premium on the difference between the yield on similar debt issuances and the interest rate on the subject company's debt. Are Ms. Kight-Garlisch's recommendations for the embedded cost of debt in GAS2013 and Aqua Illinois similar?

[21] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 22:461-436.
[22] *Id.* at Sch. 3.09.
[23] *See* ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, Sch. 3.06.
[24] *See* ICC Docket No. 13-0079, Kight-Garlisch Dir., Staff Ex. 3.0, 28:544-546.
[25] *See* ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 23:424-426.

A. No. Ms. Kight-Garlisch recommended a 3.35% cost of debt in GAS2013 and recommends a 6.12% cost of debt in Aqua Illinois.[26] Accordingly, Ms. Kight-Garlisch's higher cost of debt in Aqua Illinois shows a liquidity premium is warranted for Aqua Illinois.

B. DCF Models

Q. Did Ms. Kight-Garlisch provide testimony in Aqua Illinois' most recent rate case?

A. Yes, Ms. Kight-Garlisch provided cost of capital testimony in Aqua Illinois' most recent rate case in ICC Docket No. 11-0436, which was decided in 2012. I will use the acronym "AQUA2012" to refer to that rate case.

Q. Did Ms. Kight-Garlisch use similar cost rate models in AQUA2012 as she used in reaching her recommended return on equity for Aqua Illinois in her current testimony?

A. No. Staff only used the DCF model (i.e., single-stage or constant growth DCF) in AQUA2012,[27] but used both the DCF and the NCDCF (i.e., multi-stage DCF) models in the current case. As shown on Schedule 1, as attached to my testimony as Aqua Ex. 8.1, Ms. Kight-Garlisch's recommended DCF-based equity cost rate is based on the average of the results of her DCF and NCDCF models (*See* Sch. 1, line 32).

Q. Would Ms. Kight-Garlisch's common equity cost rate recommendation for Aqua Illinois be different if she only used the DCF model used in AQUA2012?

[26] Ms. Kight-Garlisch recommended capital structure ratios of 44.6% debt and 55.4% common equity in GAS2013 and recommends capital structure ratios of 46.8% debt and 53.2% common equity in AQUA.
[27] *See* ICC Docket No. 11-0436, Kight-Garlisch Dir., Staff Ex. 3.0, 9:162-169.

A. Yes. Schedule 4, attached to my testimony as Aqua Ex. 8.1, shows the impact on Ms. Kight-Garlisch's common equity cost rate recommendation for Aqua Illinois if she only used the DCF model used in AQUA2012. As shown on Schedule 4, Staff's NCDCF model was removed (*See* Sch. 4, lines 17-29) to be consistent with AQUA2012, and produces a DCF based cost of common equity of 8.62% for the Water Sample and 8.46% for the Gas Sample.[28] Doing so results in Staff's recommendation being 9.12% based on an 8.46% to 9.77% range of return on common equity.

Q. Did you find other differences in Ms. Kight-Garlisch's DCF calculations in AQUA2012 and her current Aqua Illinois testimony?

A. Yes. Ms. Kight-Garlisch also changed the type of growth rates used in her DCFs. Specifically, in her current Aqua Illinois testimony, she used projected five-year growth rates in earnings per share ("EPS"), projected five-year growth rates in dividends per share ("DPS") and projected five-year growth rates in Cash Flow per share.[29] In AQUA2012, Ms. Kight-Garlisch only used projected five-year growth rates in EPS.[30] Besides Ms. Kight-Garlisch's current Aqua Illinois testimony, I am not aware of another proceeding where Ms. Kight-Garlisch used either projected five-year growth rates in DPS or projected five-year growth rates in Cash Flow per share.

Q. Would Ms. Kight-Garlisch's common equity cost rate recommendation for Aqua Illinois be different if she used projected five-year growth rates in EPS?

[28] As shown on Schedule 1, Staff's recommended DCF based cost of common equity was 8.15% for the Water Sample and 8.36% for the Gas Sample.
[29] *See* ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 5:98-104.
[30] *See* ICC Docket No. 11-0436, Staff Ex. 3.0, 14:253-262.

A. Yes. Schedule 5, attached to my testimony as Aqua Ex. 8.1, shows the impact on Ms. Kight-Garlisch's common equity cost rate recommendation for Aqua Illinois if she used projected five-year growth rates in EPS; Ms. Kight-Garlisch's DCF model, used in AQUA2012, produces a DCF based cost of common equity of 9.16% for the Water Sample and 8.99% for the Gas Sample.[31] As shown on Schedule 5, if Ms. Kight-Garlisch used projected five-year growth rates in EPS in her DCF, her recommendation would be 9.38% based on an 8.99% to 9.77% range of return on common equity.

Q. Can you explain the growth rates used in Staff's NCDCF recommendation for Aqua Illinois?

A. Yes. The NCDCF is a multi-stage DCF. The first-stage of growth, or stage-one, is the near term growth rate. With the exception of her testimony in the current case for Aqua Illinois, Staff usually assumes the first-stage of growth to be equal to projected five-year growth rates in EPS. As explained previously, Ms. Kight-Garlisch changed the type of five-year growth rates used in her DCFs from being based only on projected five-year growth rates in EPS in her other testimonies to being based on projected five-year growth rates in EPS, projected five-year growth rates in DPS and projected five-year growth rates in Cash Flow per share in her current Aqua Illinois testimony.

The second-stage of growth, or stage-two, is the transitional growth between the first and the third stage. In this instance, the stage-two growth rate is the average of the first and the third stage. The third-stage of growth, or stage-three, is the steady state growth rate. Ms. Kight-Garlisch assumes the third-stage of growth to be equal to the long-term growth of the economy.

[31] As shown on Schedule 1, Staff's recommended DCF based cost of common equity was 8.15% for the Water Sample and 8.36% for the Gas Sample.

Q. What are the general components of the long-term growth of the economy?

A. The long-term growth of the economy, or GDP, is measure in both nominal dollars ("Nominal-GDP") and real, or inflation-adjusted, dollars ("Real-GDP"). The difference between Nominal-GDP and Real-GDP is inflation ("Inflation"). The Federal Bureau of Economic Analysis reports the value of Nominal-GDP and Real-GDP dollars back to 1929.

Q. Is Staff correct to assume the expected long-term overall rate of growth for the economy, or Nominal-GDP, to be 4.50%?

A. No. In my direct testimony I explained why investors believe the Nominal-GDP growth of the economy is between 5.71% and 6.23%. Further, it is my understanding the Commission rejected the methodology utilized by Staff in estimating the expected long-term overall rate of growth for the economy in 2011.

> The Commission finds problems with how . . . GDP growth rate forecast is calculated because it is based on assumptions that are inconsistent with actual historical growth for the U.S. economy. . . It is reasonable to believe that future real growth and inflation will both be 3% and therefore a 6% growth rate is a more reasonable proxy for investor's long-term expectations.[32]

Q. What are the components of Ms. Kight-Garlisch's recommended Nominal-GDP growth rate of 4.50% and what is its duration of the components?

[32] ICC Docket No. 10-0467, final Order at 125 (May 24, 2011).

A. Ms. Kight-Garlisch's recommended Nominal-GDP growth rate of 4.50% is comprised of 2.40% Real-GDP growth rate and 2.30% Inflation rate.[33] Ms. Kight-Garlisch developed her Real-GDP growth estimate using projections for only a 15-year (2024 to 2040) period and only a 20-year (2024 to 2044) period. Staff developed her Inflation rate estimate using only a 20-year (2024 to 2044) period. Ms. Kight-Garlisch developed her Nominal-GDP growth rate estimate using only a 15-year (2024 to 2040) period and only a 20-year (2024 to 2044) period.

Therefore, Ms. Kight-Garlisch's recommended long-term Nominal-GDP growth rate is only based on 15-year and 20-year projections whereas the stage-three long-term growth rate of the NCDCF is a perpetual growth rate that extends or grows indefinitely.

Q. Have you tested the reasonableness of Ms. Kight-Garlisch's recommended Nominal-GDP growth rate of 4.50%?

A. Yes, I tested Ms. Kight-Garlisch's recommended Nominal-GDP growth rate and her GDP components. I compared Ms. Kight-Garlisch's recommended Nominal-GDP growth rate based on 15-year and 20-year projections, and its components, to actual 15-year and 20-year periods to match the time periods used by Staff.

Schedule 6 shows a comparison of actual Nominal-GDP growth, Real-GDP growth, and Inflation rates over rolling or subsequent 15-year holding periods based on data published by The Federal Bureau of Economic Analysis back to 1929. For example, the first 15-year holding period begins in 1929 and ends in 1944, the second 15-year

[33] *See* ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 9:174-10:206. Staff's GDP components do not add up mathematically but they should. That is, Staff's 4.5% Nominal-GDP should be the product of her 2.4% Real-GDP and her 2.3% Inflation calculated as follows: Nominal-GDP = [(1+Real-GDP) × (1+Inflation)] – 1.

Correcting for this error shows that Staffs Nominal-GDP should be 4.8% (i.e., Nominal-GDP = (1 + 2.4%) × (1 + 2.3%) – 1 = 4.8%), not 4.5%. If Staff were to make this correction, her NCDCF-based cost rates would be 0.3% higher, and her recommended ROE would increase from 9.07% to 9.15%.

holding period begins in 1930 and ends in 1945, and so on and so forth. In total, 70 consecutive or rolling 15-year holding periods were calculated for the period 1929 to 2013.

Similarly, Schedule 7 shows a comparison of actual Nominal-GDP growth, Real-GDP growth, and Inflation rates over rolling 20-year holding periods based on the same data published by The Federal Bureau of Economic Analysis. For example, the first 20-year holding period begins in 1929 and ends in 1949, the second 20-year holding period begins in 1930 and ends in 1950, and so on and so forth. In total, 65 consecutive or rolling 20-year holding periods were calculated for the period 1929 to 2013.

Q. Please explain the results of your analysis as shown on Schedules 6 and 7?

A. The information shown on Schedule 7, attached to my testimony as Aqua Ex. 8.1, is the same as Schedule 6 except the actual compound growth in Nominal-GDP growth, Real-GDP growth, and Inflation rates are calculated over rolling 20-year periods instead of the 15-year periods shown on Schedule 6. On Schedule 7, the measures of central tendency (i.e., average, median, mid-point) for the 65 different holding periods were calculated to compare to Staff's recommended growth in Nominal-GDP growth, Real-GDP growth, and Inflation. The average Nominal-GDP growth rate over the 65 time periods of 7.3% is 63% higher, the median rate of 7.3% is 63% higher, and the mid-point rate of 5.5% is 22% higher than Staff's recommended 4.5% rate. The average Real-GDP growth rate over the 65 time periods of 3.6% is 51% higher, the median rate of 33% is 39% higher, and the mid-point rate of 3.7% is 52% higher than Staff's recommended 2.4% rate. The average Inflation rate over the 65 time periods of 3.6% is 55% higher, the median rate of

3.5% is 50% higher, and the mid-point rate of 4.2% is 80% higher than Staff's recommended 2.3% Inflation rate.

On Schedule 7 the actual 20-year compound growth in Nominal-GDP growth, Real-GDP growth, and Inflation rates also are sorted, from lowest to highest to find the percentile rank of Staff's recommended growth rates. Staff's recommended 4.5% Nominal-GDP growth percentile rank falls at 0%. This proves 100% (100% - 0%) of all actual 20-year compound growth in Nominal-GDP are higher than Staff's recommendation. Staff's recommended 2.4% Real-GDP growth percentile rank is 0%. This demonstrates 100% (100% - 0%) of all actual 20-year compound growth in Real-GDP are higher than Staff's recommendation. Finally, Staff's recommended 2.3% Inflation rate percentile rank is 13% which indicates 87% (100% - 13%) of all actual 20-year compound rate of Inflation are higher than Staff's recommendation. These percentile rank comparisons shows Staff's recommended Nominal-GDP growth, Real-GDP growth, and Inflation rates should not be used by the Commission.

Q. What is your recommendation for correcting Ms. Kight-Garlisch's scant Nominal-GDP growth rate?

A. In my direct testimony I estimated the long-term growth of the economy in two ways. First, I calculated both the Nominal-GDP growth rate and the Real-GDP growth rate based upon the compound growth of the value of the economic output since 1929, as published by the Federal Bureau of Economic Analysis. This method showed the long-term Nominal-GDP growth rate has been 6.2% since 1929.

In the second method I converted the growth in the Real-GDP to a projected nominal growth by adding the implied forward rate of inflation recently reflected in

comparable long-term treasury securities. This method produced a long-term Nominal-GDP growth rate of 5.7%.

Therefore, a practical estimate of the long-term Nominal-GDP growth rate is in the range of 5.7% to 6.2%. I believe a 5.9% long-term Nominal-GDP growth rate is a reasonable rate based on the aforesaid range of 5.7% to 6.2%.

Q. What would Ms. Kight-Garlisch's NCDCF based common equity cost rate be based upon the corrections or changes that you have discussed?

A. Schedule 8, attached to my testimony as Aqua Ex. 8.1, shows the end result of making the suggested correction or changes to Ms. Kight-Garlisch's NCDCF. As explained previously regarding Staff's DCF, use of projected five-year growth rates in EPS has been Staff's customary practice. At lines 1 and 2 of Schedule 8, Staff's NCDCF has been corrected to reflect the first-stage of growth to be based on projected five-year growth rates in EPS. After correcting for this inconsistency, Staff's NCDCF for her Water Samples increases from 7.67% to 7.96% and from 8.26% to 8.62% for her Gas Sample.

The Correction for Staff's unreasonably low Nominal-GDP growth rate used as the third-stage of growth in the NCDCF is shown on lines 3 and 4 of Schedule 8. Staff's NCDCF for her Water Samples is 9.11% and 9.68% for her Gas Sample after using a more realistic Nominal-GDP growth rate of 5.9%.

Q. Would Ms. Kight-Garlisch's common equity cost rate recommendation for Aqua Illinois be different if she only used projected five-year growth rates in EPS and actual Nominal-GDP growth rates?

A. Yes. Schedule 9, attached to my testimony as Aqua Ex. 8.1, shows the impact on her common equity cost rate recommendation for Aqua Illinois if she used projected five-

year growth rates in EPS and actual Nominal-GDP growth rates in her DCF and NCDCF models. As shown on Schedule 9, line 32, these modifications produce a DCF based cost of common equity of 9.14% for the Water Sample and 9.34% for the Gas Sample.[34] As shown on Schedule 9, if Staff used projected five-year growth rates in EPS and actual Nominal-GDP growth rates in her DCF and NCDCF models, her recommendation would be 9.56% based on an 9.34% to 9.77% range of return on common equity.

C. CAPM Analysis

Q. Do you agree with Staff's CAPM estimate?

A. No. Staff calculated a CAPM after determining the return on the market based on a DCF. Accordingly, Staff's CAPM suffers from the same breakdowns that its DCF does. However, the results of Ms. Kight-Garlisch's CAPM are more meaningful than the results of Staff's Samples' DCF and NCDCF.

Q. Does the size premium account for lack of marketability risk differences between Aqua Illinois and Staff's comparable groups?

A. Investors prefer liquidity to lack of liquidity. Accordingly, a share in a business is worth more if it is easily marketable or, conversely, worth less if it is not. Privately held water utilities such as Aqua Illinois are worth less than publicly traded water utilities. The size premium used in the CAPM accounts for some of these differences.

Q. How did you adjust for the impact that size has on the comparable group's beta?

A. The adjustment is reflected in the CAPM size premium. The CAPM size premium is developed on Schedule 19, p. 4 (Exhibit HW-1) of my Direct Testimony. The size

[34] As shown on Schedule 1, Staff's recommended DCF based cost of common equity was 8.15% for the Water Sample and 8.36% for the Gas Sample.

premium reflects the risks associated with Staff's Samples' small size and its impact on the determination of their beta. This adjustment is necessary because beta does not capture or reflect Staff's Samples' small size. There is no disputing the fact that small size is an additional element of risk for which investors should be compensated. The adjustment to Staff's CAPM to account for the size premium is reflected in Schedule 10, attached to my testimony as Aqua Ex. 8.1, line 42.

As shown on Schedule 10, line 43, these modifications produce a CAPM based cost of common equity of 10.71% for the Water Sample and 10.67% for the Gas Sample.[35] As shown on Schedule 10, after Staff's DCF and NCDCF are fixed for the projected five-year growth rates in EPS and actual Nominal-GDP growth rates and her CAPM is corrected for the size premium, her recommendation would be 10.01% based on an 9.34% to 10.67% range of return on common equity.

Q. Ms. Kight-Garlisch recommends a 12.53% market return for the S&P 500 in her testimony in Aqua Illinois.[36] How comparable is Staff's Water Sample and Gas Sample to Staff's S&P 500 market portfolio?

A. The majority of the companies in Staff's Market Portfolio are non-regulated and operate in competitive markets, whereas Staff's Samples are price-regulated and operate primarily in franchised markets. Moreover, the companies in Staff's Market Portfolio are some of largest companies in the world and, although they must compete in their respective lines of businesses, they have considerable, if not complete control of their respective markets. Further, although utilities operate in varying degrees as franchise

[35] As shown on Schedule 1, Staff's recommended CAPM based cost of common equity was 9.41% for the Water Sample and 9.77% for the Gas Sample.
[36] ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 17:331-333; Staff Sch. 3.06.

monopolies, they must compete with governmental bodies, non-regulated industries, and other utilities for labor, materials, and capital. Capital is provided by investors who seek the highest return commensurate with the perceived level of risk, and the greater the perceived risk, the higher the required return rate.

That being said, I believe the companies in Staff's Market Portfolio are riskier investments than Staff's Water Sample and Gas Sample. However, the Water Sample is not 438-basis points less risky than the Staff's Market Portfolio, which is what is indicated based upon Staff's DCF estimates.[37] Further, the Gas Sample is not 416-basis point less risky than the Staff's Market Portfolio, which is what is indicated based upon Staff's DCF estimates.[38] A 416 to 438-basis point cost rate differential is neither rational nor believable. When given the option of investing, I do not believe an investor would expect or require a return for a water utility such as Aqua Illinois that was 416 to 438-basis points lower than the return for Staff's Market Portfolio.

Q. Do you see obvious problems with Ms. Kight-Garlisch's recommended DCF based common equity cost rate estimate for Staff's Samples?

A. Yes. Ms. Kight-Garlisch's recommended DCF based common equity cost rate of 8.15% for the Water Sample is 225-basis points <u>below</u> Staff's 10.4% projected return on equity (Exhibit HW-1 Schedule 15, page 2). Further, Staff's recommended DCF based common equity cost rate of 8.37% for the Gas Sample is 353-basis points <u>below</u> their 11.9% projected return on equity (*See* Ex. HW-1, Schedule 15, p. 2 as attached to my Direct Testimony). Staff's DCFs are simply the result of a mechanistic application of the model without regard to actual measurable, alternative investment opportunities. The

[37] For the Water Sample see Schedule 1, line 32 for Staff's DCF, or 12.53% - 8.15% = 4.38%.
[38] For the Gas Sample see Schedule 1, line 32 for Staff's DCF, or 12.53% - 8.37% = 4.16%.

inadequacy of Staff's unreasonably low DCF cost rates are especially noticeable when viewed in the context of the projected return of equity for the same companies, which are hundreds of basis points higher than her recommendation.

For these reasons, I recommend that no weight be given to Staff's DCF based common equity cost rate estimate for Staff's Samples.

Q. Does Staff's recommended cost of common equity recognize Aqua Illinois' additional risk associated with its smaller size?

A. No. Staff does not reflect Aqua Illinois' additional risk associated with its smaller size. Therefore, Staff's recommendation reflects a "financial prejudice" regarding Aqua Illinois.

Q. Please explain Staff's "financial prejudice" concerning the Company.

A. Investors who invest in a risky asset expose themselves to investment risk particular to that investment. The greater the risk associated with a risky asset, the higher the required return. This is a basic tenet of corporate finance concerning risk and return. The investment risk of an asset does not change, no matter who owns the asset. Whether the asset is owned by a tall person or a short person, the required return is the same because the risk of owning that asset is the same. Likewise, whether the owner or investor of a risky asset is rich or poor, the risk of owning the asset is unchanged and therefore the required return is unchanged. For example, if the U.S. Government auctioned long-term Treasury Bonds today at 4.5%, the richest man in the world would receive the same return by purchasing those bonds as would a charitable organization because the return of this asset, Treasury Bonds, provides the same return no matter the owner. Every investor is entitled to equal treatment. Staff's recommendation results in "financial prejudice" by

applying a calculated equity cost for Staff's Comparison Groups and applying it to AQUA without reflecting the measurable risk differences.

Staff's position penalizes Aqua Illinois due to lack of recognition of its small size, because of who owns its common stock, which violates the basic premise concerning risk and return. The composition of the investors who hold utility common stock varies widely. The stockholders may include some millionaires and senior citizens living on fixed retirement income. However, when a utility commission determines the appropriate ROE for a utility, all investors, no matter their status, should receive identical returns.

Q. In your opinion, what impact would Staff's 9.07% ROE have on Aqua Illinois should the Commission adopt this proposal?

A. In my opinion, Aqua Illinois' credit quality or credit worthiness would be reduced because the political and regulatory environment in which a utility operates are significant factors in determining credit quality. For example, Standard and Poor's evaluations of allowed ROE decisions are based on their relationship to national averages[39] and Staff's 9.07% ROE is far below the national average. Further, Moody's believes allowed ROE's are leading indicator of utility cash flow and, therefore is a good measure of the regulatory support a utility receives.[40]

In my opinion, if the Commission were to adopt Staff's 9.07% ROE for Aqua Illinois, it may restrict the Company's ability to attract capital. I state this because Aqua Illinois' ability to access capital is strictly based on its assets, earnings, and cash flow, not

[39] Standard & Poor's, *Assessing U.S. Investor-Owned Utility Regulatory Environments*, January 7, 2014.
[40] Moody's Investor Service, *US Regulated Utilities: Regulatory Support, Low Natural Gas Prices Maintains Stability*, February 6, 2013.

the resources of Aqua America. The unreasonably low authorized ROE would: 1) jeopardize Aqua Illinois' ability to attract new common equity capital; 2) impair its ability to maintain its dividend; and 3) impair its ability to maintain its credit rating. It may even restrict the Company's ability to attract capital.

Aqua America is a holding company for regulated utilities providing water or wastewater services to about 3 million people located in Pennsylvania, Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, and Virginia. According to Aqua America's 2013 Form 10-K filed with the SEC, Aqua America uses a business strategy which focuses their operations in areas which have "critical mass and economic growth potential and to divest operations where limited customer growth opportunities exist or where we are unable to achieve favorable operating results or a return on equity that we consider acceptable." Staff's proposed 9.07% return on equity is far below the returns on equity Aqua Illinois' sister companies have been authorized. Further, if authorized, Staff's proposed 9.07% return on equity will not likely be earned due to the fact that Staff has recommended the disallowance of hundreds of thousands of Aqua Illinois' expenses that have previously been approved.

The level of an authorized return on equity provides an indication, or lack thereof, of regulatory support for the utilities that a commission regulates. It provides a familiar benchmark that can be utilized to judge one utility against another. To retain existing capital and to attract new capital, the authorized rate of return on common equity must be high enough to satisfy investors' requirements at all times; including periods of economic uncertainty.

Staff proposes a return on equity that is inadequate to attract capital and would send an unmistakable message that Illinois is not the place for investors to make investments that are not absolutely required. Staff's proposal upends traditional notions of regulatory certainty. In short, disregard for regulatory certainty makes it virtually impossible for a small water company to properly plan for future investments in its infrastructure. This result benefits no one, and contradicts long-standing notions of sound regulatory policy.

III. ANALYSIS OF CAPITAL STRUCTURE AND FIXED CAPITAL COST RATES

Q. Is Ms. Kight-Garlisch's recommended capital structure reasonable?

A. Yes.

Q. Are Ms. Kight-Garlisch's recommended fixed capital cost rates reasonable?

A. Yes.

IV. RESPONSE TO CRITIQUES OF MR. WALKER'S DIRECT TESTIMONY

Q. Are historical data considered and relied upon by investors even in making or forming going-forward investment decisions?

A. Yes. Historical data are commonly used in making or forming investment decision. Every use of historical data in my direct testimony is consistent with investors' behavior and financial theory.

Q. Is the use of a size premium appropriate?

A. I have analyzed the manner in which a company's size impacts the cost to issue long term debt. The cost to issue long-term debt is inversely related to the size of a debt offering.

That is, the smaller the debt offering, the higher the issuance expenses. Since issuance expenses are included as part of the cost of debt, a company's small size increases its cost of debt. A company's size affects both the interest expense (yield or coupon) and the issuance expenses required to issue debt. Additionally, the terms of the issuance are usually more onerous for a smaller issue. This analysis observation confirms the use of size premium.

Q. Does the size premium account for lack of marketability risk differences between Aqua Illinois and Staff's Samples?

A. Investors prefer liquidity to lack of liquidity. Accordingly, a share in a business is worth more if it is easily marketable or, conversely, worth less if it is not. Privately held water utilities such as Aqua Illinois are worth less than publicly traded water utilities. The size premium used in the CAPM accounts for some of these differences.

Q. Is the use of the size premium widely accepted by the academic comity and the financial community?

A. Yes. Since small size is a recognized and meaningful element of risk, it is appropriate to reflect that risk in a company's cost of equity. Credit rating agencies recognize that size affects credit rating. Valuation professionals and courts recognize the use of a size premium. I do agree with Staff that a portion of the size premium may be attributed to a liquidity premium but this nuance does not change the fact that investor require a premium for size.

Ms. Kight Garlisch cites to three articles to support her contention regarding the use of a size premium.[41] The *Jensen* article she cites opines that the size premium is related to monetary policy and specifically notes the existence of the size premium during periods of monetary expansion. The Federal Reserve is clearly following a monetary expansion policy given their "zero interest rate" policy and their the large purchase and holdings of US treasury debt.

Ms. Kight Garlisch also cites to a 1998 article by *Fernholz.* However, a subsequent 2006 article by Fernholz acknowledges the existence of the size premium but concludes it is related to their liquidity premium:

> Over the long term, the returns on smaller stocks are likely to be higher than the returns on larger stocks. This phenomenon has been called the size effect, and a number of explanations have been proposed to account for it. Here we show that the difference in return between the larger and the smaller stocks is likely to be due to a liquidity premium for the smaller stocks, and we estimate the value of this premium using structural parameters for the capital distribution of the U.S. stock market during the 1990s.[42]

Finally, Staff cites to a 1993 article by *Wong* to support for her assertion that the size premium is not applicable to utilities. However *Wong's* conclusion is specifically rebutted by a 2002 article by T. M. Zepp.[43] In the *Zepp* article, he explains that size premium does exist and presented research on water utilities that support a small firm effect. I also note that a 1995 article by M. Annin provides additional support for the use of the size premium for utilities.[44]

Q. Is a leverage adjustment justified?

[41] *See* ICC Docket No. 14-0419, Kight-Garlisch Dir., Staff Ex. 3.0, 33:608-:34:624; 34:625-35:646; 36:660-663.
[42] Fernholz, Robert and Karatzas, Ioannis, "The Implied Liquidity Premium for Equities," Annals of Finance, January 2006, Volume 2, Issue 1, pp 87-99.
[43] *See* Zepp (2002), "Utility stocks and the size effect: revisited", Economics and Finance Quarterly, 43, 578-582.
[44] See Annin (1995), "Equity and the Small Stock Effect", Public Utilities Fortnightly, October 15, 1995, at 42-43.

A. Yes. I explained the reason a leverage adjustment should be used in my Direct Testimony. Further, Ms. Kight-Garlisch and I agree that capital structure and firm value are related. Since capital structure and firm value are related, a leverage adjustment is required when a cost of common equity model is based on market value and if its results are then applied to book value. My analysis in this area indicates that Staff's ROE should be adjusted upwards by 60-basis points in order to be consistent with financial theory.

V. CONCLUSION

Q. Does this conclude your rebuttal testimony?

A. Yes.